

Chemical Corps Regimental Association Annual Writing Contest

A Relevant Chemical Corps in the Contemporary Operational Environment

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Over the last 12 years, the U.S. military has been involved in a number of diverse missions. Operations in the first Gulf War, Haiti, Somalia, Bosnia, Kosovo, Afghanistan, the war against terrorism, and the Iraq War have taught us many lessons. Studying these missions and conflicts throughout the world has shown common trends. The U.S. Army Training and Doctrine Command (TRADOC) Deputy Chief of Staff for Intelligence summarizes these trends in a white paper, "Capturing the Operational Environment," published in 2000.¹ This white paper (that I refer to throughout this article) was aimed at capturing the current and future operational environment for U.S. military operations and was intended to inform military leaders about significant trends that would help them focus training.

The contemporary operational environment (COE)² has many implications for the U.S. Army Chemical Corps. While its doctrinal foundations are sound, to remain relevant, the Corps's leadership must change the way it thinks and trains soldiers. In this article, I discuss how the common trends and characteristics of military operations in the COE apply to the training of chemical soldiers.

Common Trends

Although the world today can appear chaotic, there are observable trends that will likely continue into the foreseeable future. Several of these trends were identified in the TRADOC white paper. In this article, I examine the five³ that I believe are most relevant to the training of chemical soldiers:

- The dominant actors will still be nation states; however, some power will shift to nontraditional actors.
- The U.S. homeland will be increasingly exposed to attack.
- The world's environmental conditions (such as water shortages, pollution, and climate changes) will lead to increased intranational and international tensions.
- The socioeconomic gap between the haves and the have-nots will widen, leading to global tensions that

force many groups to adopt terrorism and asymmetrical means to promote their agendas.

- The proliferation of advanced technologies/ weapons (such as conventional weapons, weapons of mass destruction [WMD], and chemical/ biological weapons) will continue.

Nontraditional Actors

Traditionally, the Army has been able to focus on defeating other nation states to achieve strategic goals, and it is important to remember that the United States must still be prepared to counter regional- or state-centered threats. However, over the last decade, transnational threats (such as terrorists, international crime, drug trafficking, and culturally or nationally motivated groups) have also become a concern.⁴ These nontraditional actors now force the Chemical Corps to improve staff integration and create better nuclear, biological, and chemical (NBC) vulnerability analysis products.

The three NBC attack checklists in Field Manual (FM) 3-14, *Nuclear, Biological, and Chemical (NBC) Vulnerability Analysis*, ask, "Are there known terrorist threat capabilities?"⁵ However, these checklists focus on more traditional threats and provide us with an example of what the Chemical Corps must do to remain relevant in the COE. It must continue to refine its doctrine to arm soldiers with the tools they need to predict the enemy

threat accurately. Specifically, FM 3-14 needs to be updated. As an example, the NBC attack checklists could be expanded to ask additional questions about the likely terrorist targets in our area of operations and interest and the probable delivery means.

Our Corps must also continue to improve training at all levels. Institutional, operational, and self-directed learning need to include more elements of the COE. Every training plan should be balanced regarding conventional and nonconventional threats. For chemical units to remain relevant, they must be armed first with a vulnerability analysis that puts them on the battlefield in the right place at the right time to mitigate the threat. To accomplish this, the COE must be taken into consideration.

For instance, if U.S. forces are using an aerial port of debarkation (APOD) in a forward-deployed area, and the enemy has the capability to deliver persistent chemical munitions to deny us the use of that APOD, a decontamination company may be one of the highest-priority units in the deployment order.

Increasing Risk

Nontraditional actors also increase the risk to homeland security. The U.S. military currently has FM 3-11.21, *Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical Aspects of Consequence Management*, as a doctrinal guide for dealing with the increased risk of NBC incidents in the United States. According to this manual, “U.S. forces may be required to support civil authorities in domestic or foreign situations/incidents due to the deliberate or unintentional use of NBC weapons or materials.”⁶

While the Department of Defense is not likely to be the lead federal agency in the event of an NBC incident in the United States, it will continue preparing to serve in a supporting role. To achieve this, the Chemical Corps should expand its interaction and training with first responders and other federal agencies, such as the Federal Emergency Management Agency. Chemical units need to become more involved in annual training exercises with these agencies to ensure that they are ready to provide the NBC reconnaissance and decontamination support the agencies need. Remaining relevant today means allowing chemical units to have the resources (time, money, and increased training opportunities with other relevant agencies) to make them more flexible by participating in COE-focused training.

Environmental Conditions

How do environmental conditions affect the Chemical Corps? I believe that the Corps’s role is to limit the impact of hazardous materials on friendly elements. The Chemical Corps is learning to deal with toxic industrial chemicals (TICs) and toxic industrial materials (TIMs).

FM 3-14 has a short checklist that focuses on the possibility of a threat using TICs and TIMs as weapons.⁷ This checklist can be applied to forces that are in foreign or domestic situations.

To demonstrate, a brigade priority intelligence requirement (PIR) might be finding where the industrial plants, storage sites, and shipping depots are located. Once the PIR is answered, the chemical staff analyzes the impact (or potential impact) of these TICs, TIMs, and sites on friendly operations. While the doctrinal foundation is present in FM 3-14, the Chemical Corps should continue to update this reference by expanding the checklists in order to provide more focus on battlefield TIC/TIM hazards. There are also civilian publications that help fill the gaps in this developing doctrine.

The Chemical Captain’s Career Course (CMC3) is currently introducing students to the *National Institute of Occupational Health and Safety Guide* and the *North American Emergency Response Guidebook* to give them a better understanding of hazardous materials and how to respond to them. CMC3 has integrated practical exercises dealing with TICs and TIMs into their three Warfighter exercises. Additionally, both the CMC3 and the Chemical Officer Basic Course are certifying their students in hazardous material (HAZMAT) awareness and operations.

Institutionally, we are beginning to address TIC/TIM hazards on the battlefield. The Chemical Corps has a doctrinal base and school instruction in place. The next step in maintaining the Chemical Corps’s relevancy in future operations is continuing to improve our doctrine, make relevant civilian publications more accessible to chemical staffs, and incorporate more TIC/TIM hazards at the combat training centers (CTCs) and corps/division Warfighters.

Asymmetrical Warfare

“Asymmetrical warfare focuses whatever may be one side’s comparative advantage against an enemy’s weakness.”⁸ In the foreseeable future, the United States expects to be dominant on conventional battlefields. This means that our enemies will attempt to exploit our vulnerabilities. So where is the United States vulnerable? The authors of the TRADOC white paper determined that, generally, the foreign perceptions of U.S. vulnerabilities are—

- An unwillingness to accept heavy losses and an aversion to risk.
- A leadership sensitivity to domestic and world opinion.
- A lack of commitment over time.
- A predictability to military operations that makes them easily modeled.⁹

The United States' enemies will attempt to use these perceived weaknesses against us. One way that they may attempt to keep the United States out of a conflict is to threaten to use chemical, biological, radiological, and nuclear (CBRN) weapons. If that threat can make the government or the people believe that an operation risks a large loss of life, an enemy may win a conflict before it begins.

So what is the role of the Chemical Corps in asymmetrical warfare? The Corps must continue to improve its NBC defense training, equipment, and doctrine. The best defense continues to be well-trained soldiers using the best NBC defense equipment in the world.

It is important to note that using CBRN weapons is a two-edged sword for the enemies of U.S. forces. While it can create mass casualties or delay actions, it can also galvanize world opinion against the user. Using NBC weapons against U.S. targets can also firm the resolve of the American people. Threat elements must understand that U.S. forces are capable of mitigating or eliminating the impact of CBRN weapons. U.S. training readiness should demonstrate that it is not in an enemy's best interest to use these weapons; the cost will far outweigh any potential benefit. This also applies to homeland security. The Chemical Corps needs to be ready to support the other agencies that are responding to terrorist threats. U.S. enemies must believe that there is an executable and comprehensive response in place that will mitigate the impact of an attack.

Weapons Proliferation

One of the reasons that the use of CBRN weapons is such a threat is the proliferation of this technology. The use of CBRN weapons may come from unexpected sources in the COE. Our military will never again go into an operation with no CBRN threat. There are too many states that have access to these weapons, and the likelihood of nontraditional actors obtaining these weapons is unprecedented.

In the past, our vulnerability analysis covered the immediate threat. Now, chemical staffs need to consider the impact of terrorists/nontraditional actors (who are not tied directly to whatever operation chemical soldiers are executing) using CBRN weapons. The key to addressing this issue at the division, brigade, and battalion level is the aggressive pursuit of current information about the adversary being faced and any other enemies that may have interests linked to the primary threat.

One way that the Chemical Corps can address this issue is by developing formal, quick, and easy techniques for reaching back to the U.S. Army Chemical School to request information. A better link between the collective knowledge of the schoolhouse and the field can provide critical and timely information to chemical soldiers.

Characteristics of Military Operations

The TRADOC white paper lists 13 characteristics of U.S. military operations in the COE. I will discuss three that I believe are relevant to the Chemical Corps:

- There is no homeland sanctuary.
- There will be operations in urban/complex terrain.
- There must be force protection.¹⁰

No Homeland Sanctuary

"With the threat of global terrorism and weapons of mass destruction (WMD), U.S. forces can no longer assume that the continental United States or overseas staging areas offer security. Future enemies will attempt to disrupt our power-projection capabilities by attacking installations, information systems, or transportation nodes."¹¹ Chemical staffs must consider the potential terrorist threat aimed at disrupting U.S. deployment. This may not mean terrorists smuggling CBRN weapons into the United States and releasing them. Terrorists may target or use local TICs/TIMs to disrupt deployments. War will not always mean deploying to a distant land; it can begin the minute our enemies know which units they have to delay.

Operations in Urban/Complex Terrain

Another relevant characteristic of military operations in the COE is complex/urban terrain. If the enemy is not successful in stopping our deployment, he will use difficult terrain to attempt to defeat U.S. forces. Operations on complex/urban terrain are unavoidable in future conflicts. Threat forces will use this ground in an attempt "to negate technological overmatches in intelligence and weapons systems."¹² I believe that this makes the use of CBRN weapons more likely. With our technological advantages taking away an enemy's ability to shoot the hundreds of rounds necessary to launch an effective chemical attack, complex/urban terrain allows a smaller number of rounds to be more effective in producing casualties and shaping the battlefield. One persistent round, detonated on a main city street or in a sewer line, can close a main axis of advance.

To remain relevant in the COE, chemical staffs need to ensure that technological advantages are taken into account when teaching and training NBC vulnerability analysis. This means changing the way we think about where, when, and how the enemy employs these weapons.

Force Protection

Everything we have discussed to this point relates to the primary mission of the Chemical Corps—force protection. This is a critical mission considering that the authors of the TRADOC white paper believe that "it is absolutely certain that our future opponents will focus entirely on our strategic center of gravity—mass

casualties.”¹³ They also believe that “WMD, rockets, and terrorism will be the weapons of choice.”¹⁴

The Chemical Corps’s mission is to protect the force and the nation from these weapons; that has not changed. The key to achieving this mission is chemical staffs conducting an accurate vulnerability analysis, taking the COE into consideration, and then creating a plan that focuses available resources on preventing or mitigating the effects of CBRN weapons, TICs, and TIMs on future operations.

Fundamentals Still Apply

It is important to note that the principles and fundamentals currently in chemical doctrine are still applicable. They just need to be applied with the COE in mind. I am using the principles of decontamination as an example:

- Decontaminate as soon as possible.
- Decontaminate only what is necessary.
- Decontaminate as far forward as possible.
- Decontaminate by priority.¹⁵

How does a chemical staff apply the principles of decontamination in the new COE? Let’s briefly examine this scenario to find out:

A U.S. division is notified that it is deploying for combat operations. Entry into the theater is limited to one major APOD. The vulnerability analysis reveals that the enemy has persistent chemical agents that can be delivered to the APOD by rockets or terrorists. Additionally, the task force has an attached decontamination platoon.

In this situation, the chemical staff must ensure that the decontamination platoon is in theater in time to react to a chemical strike on the APOD. The staff has to be in

position to decontaminate as soon as possible after a strike. The chemical staff ensures that the unit is trained to determine what needs to be decontaminated after a chemical attack. Additionally, chemical soldiers work with the commander to establish the priority of decontamination during predeployment planning. In this example, the priority might be the runway because it is needed to keep friendly elements moving into theater. The only change to how we apply these principles is in the way we think about threat capabilities and tactics.

Conclusion

While the doctrinal foundation is sound, the Chemical Corps must change with the times to remain relevant. The COE must be understood thoroughly. That knowledge must then be applied doctrinally to current and future operations in order to protect the force and our country.

Endnotes

¹U.S. Army Training and Doctrine Command White Paper, Deputy Chief of Staff for Intelligence, *Capturing the Operational Environment*, Fort Leavenworth, Kansas, 2 February 2000.

²FM 7-100, *Opposing Force Doctrinal Framework and Strategy*, May 2003.

³Ibid., p. 5.

⁴Ibid., p. 7.

⁵FM 3-14, *Nuclear, Biological, and Chemical (NBC) Vulnerability Analysis*, November 1997, pp. A-0, B-1, C-0.

⁶FM 3-11.21, *Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical Aspects of Consequence Management*, December 2001, p. I-1.

⁷FM 3-14, pp. 2-19.

⁸*Capturing the Operational Environment*, p. 8.

⁹Ibid., p. 7.

¹⁰Ibid., pp. 12-14.

¹¹Ibid., p. 12.

¹²Ibid., p. 11.

¹³Ibid.

¹⁴Ibid.

¹⁵FM 3-5, *NBC Decontamination*, July 2000, p. 1-4.